Title: InCoCo-S Business Game User Manual
Ref: InCoCo\APH\LCJ
Issue: 01.10

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InCoCo-S Business Game
User Manual

Issue: 01.10

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1 Installing the Business Game

1.1 System Requirements

To use the Business Game, you must have:

- An Internet Connection
- Microsoft Internet Explorer (Version 6 or above) or Mozzilla Firefox

1.2 Linking to the Game

To link to the InCoCo-S Business Game, enter the following link into Internet Explorer:

http://www.ventanasystems.co.uk/InCoCoGame.html

It is recommended that you add the page link to your list of favourites

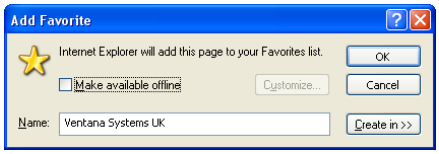

Figure 1 - Adding link to favourites in Internet Explorer

Please note: At present, the web based Business Game will only work in Internet Explorer Version 6 and Firefox. If your default browser is something different, such as Opera, the link will not work correctly.

To run the business game, click on the "Play" button.

1.3 Installing For First Time

If it is the first time the Business Game has been accessed by the computer, a browser plug-in will be required to be installed. If this is the case, the following dialog box will appear automatically.

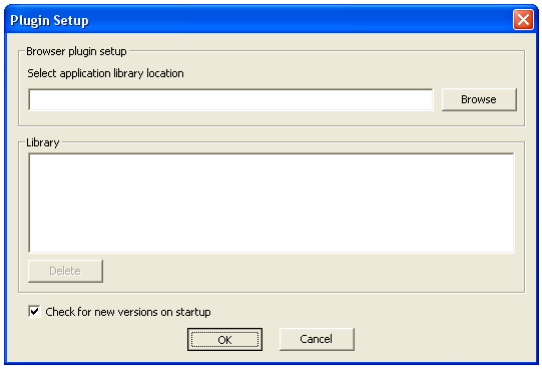

Figure 2 - Plug-in setup Dialog

Enter the location path for the local model library using the browse button. Then click on OK

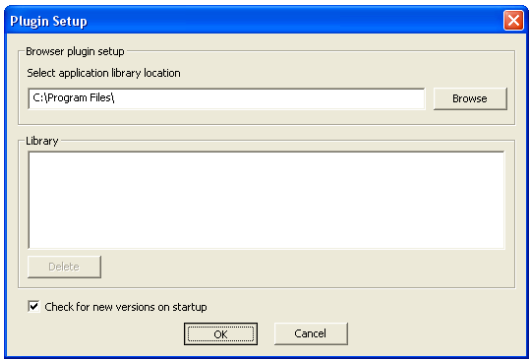

Figure 3 - Completed Plug-in Setup

The Plug-in will then automatically install. Next you will be asked if you would like to install the package into the library destination you have just specified.

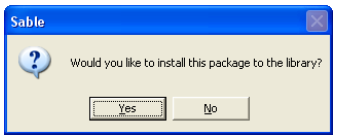

Figure 4 - Installing game package

Click on OK and the Business Game package will install. As it installs you will see the download dialog box shown below.

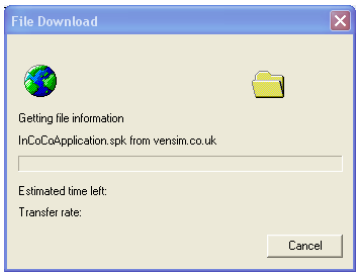

Figure 5 - Downloading business game

When the package has installed, the splash screen below will briefly appear

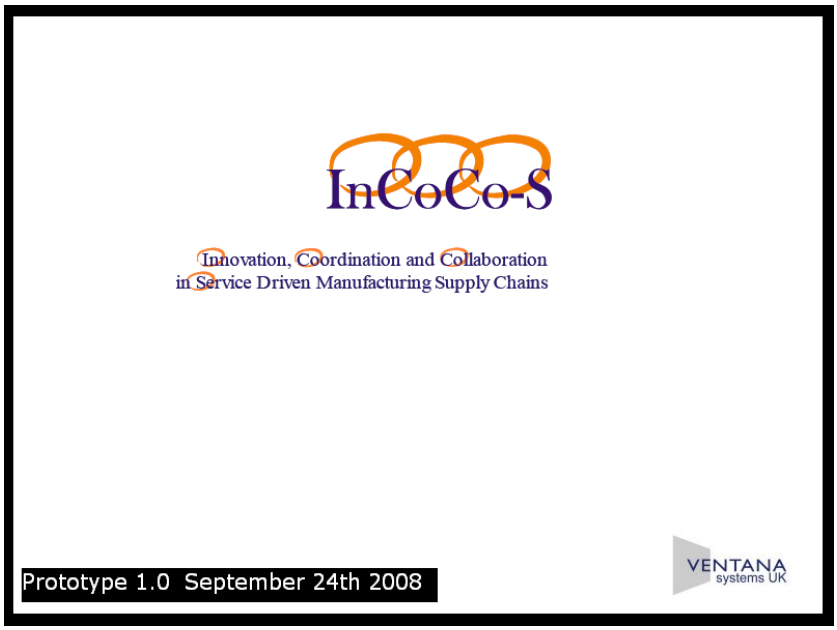

Figure 6 - Business Game Splash Screen

Followed by the introductory screen for the Business Game.

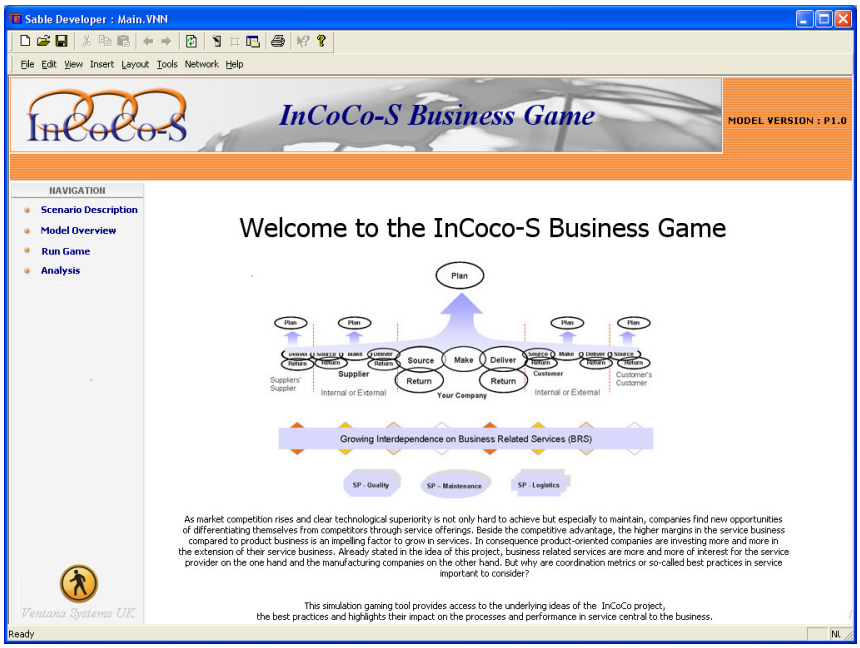
Sable Developer : Main.VNN
File Edit View Insert Layout Tools Network Help
InCoCo-S Business Game
MODEL VERSION : P1.0
NAVIGATION
Scenario Description
Model Overview
Run Game
Analysis
Welcome to the InCoco-S Business Game
Plan
Source
Make
Deliver
Return
Supplier
Your Company
Customer
Growing Interdependence on Business Related Services (BRS)
SP - Quality
SP - Maintenance
SP - Logistics
As market competition rises and clear technological superiority is not only hard to achieve but especially to maintain, companies find new opportunities of differentiating themselves from competitors through service offerings. Beside the competitive advantage, the higher margins in the service business compared to product business is an impelling factor to grow in services. In consequence product-oriented companies are investing more and more in the extension of their service business. Already stated in the idea of this project, business related services are more and more of interest for the service provider on the one hand and the manufacturing companies on the other hand. But why are coordination metrics or so-called best practices in service important to consider?
This simulation gaming tool provides access to the underlying ideas of the InCoCo project, the best practices and highlights their impact on the processes and performance in service central to the business.
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Figure 7 - Business Game Introductory Screen

The Business Game is now ready to play

1.4 Subsequent Usage

If it is not the first time the Business Game has been used on the computer, there is no requirement for the Plug-in to be downloaded, unless there has been a software update.

On subsequent uses of the Business Game, clicking on the link (Section 1.2) will prompt the user that the model is already available in the library. Click OK to continue

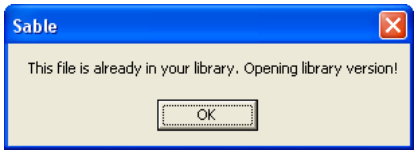

Figure 8 - Library check dialog

The game will then check to see if there is a newer version of the Business Game available on the host server. If there is, you will be asked if you wish to download the newer version

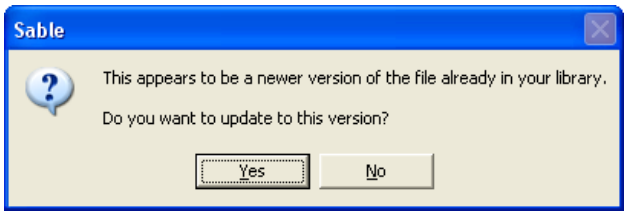

Figure 9 - Update library dialog

When the package has installed, the splash screen below will briefly appear (Figure 6) followed by the introductory screen for the Business Game (Figure 7).

The Business Game is now ready to play.

2 Navigation Map

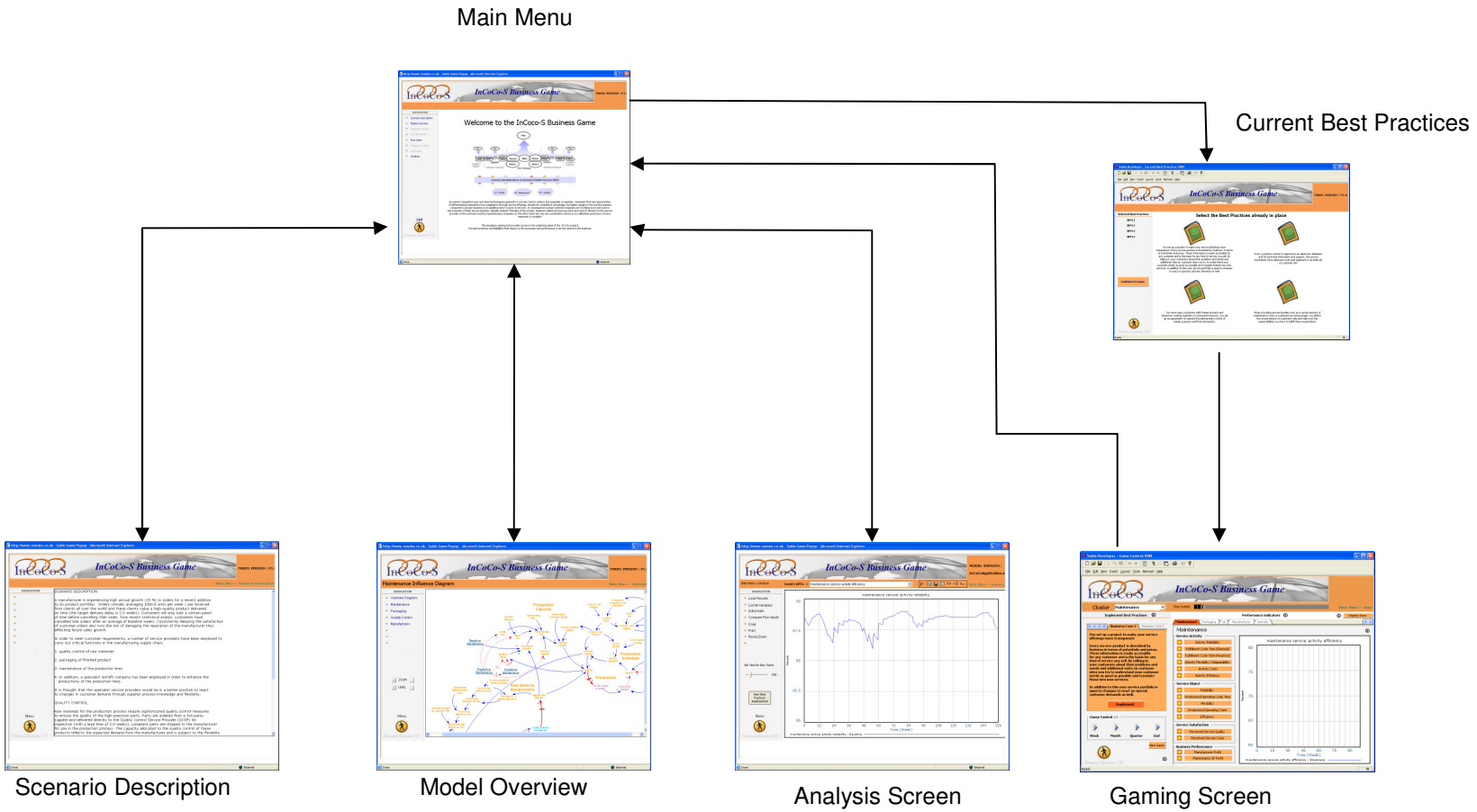

Figure 10 - Navigation Map

2.1 Main Menu

Navigate to :

- Scenario Description
- Model Overview
- Gaming Screen
- Analysis Screen

To exit the Business Game, click on

- **Scenario Description**

Navigates to: Scenario Description

- **Model Overview**

Navigates to: Model Overview

- **Gaming Screen**

Navigates to: Gaming Screen

- **Analysis Screen**

Navigates to: Analysis Screen

Closing the browser window will also close the Business Game

3 Main Menu

Sable Developer : Main.VNN
File Edit View Insert Layout Tools Network Help
InCoCo-S
InCoCo-S Business Game
MODEL VERSION : P1.0
NAVIGATION
Scenario Description
Model Overview
Run Game
Analysis
Welcome to the InCoco-S Business Game
Plan
Source
Make
Deliver
Return
Supplier
Customer
Suppliers' Supplier
Internal or External
Your Company
Customer's Customer
Growing Interdependence on Business Related Services (BRS)
SP - Quality
SP – Maintenance
SP - Logistics
As market competition rises and clear technological superiority is not only hard to achieve but especially to maintain, companies find new opportunities of differentiating themselves from competitors through service offerings. Beside the competitive advantage, the higher margins in the service business compared to product business is an impelling factor to grow in services. In consequence product-oriented companies are investing more and more in the extension of their service business. Already stated in the idea of this project, business related services are more and more of interest for the service provider on the one hand and the manufacturing companies on the other hand. But why are coordination metrics or so-called best practices in service important to consider?
This simulation gaming tool provides access to the underlying ideas of the InCoCo project, the best practices and highlights their impact on the processes and performance in service central to the business.
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Figure 11 - Main Screen

The Main Menu provides additional background information about the Business Game.

There are five navigation options available:

- Scenario Description
- Model Overview
- Run Game
- Analysis
- Exit Game

Exiting any of the subsequent screens outlined below will always return the user to this Main Menu screen.

4 Scenario Description

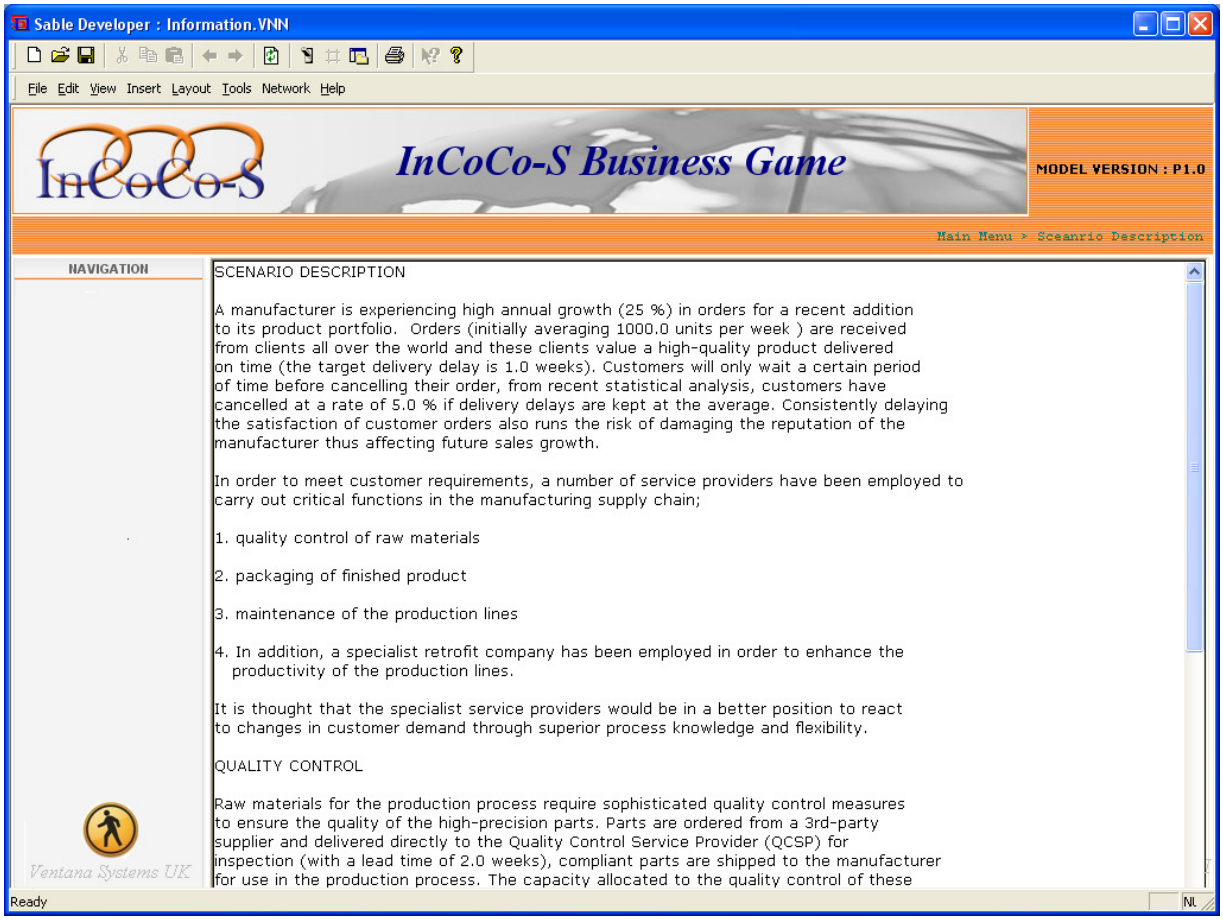
Sable Developer : Information.VNN
File Edit View Insert Layout Tools Network Help
InCoCo-S
InCoCo-S Business Game
MODEL VERSION : P1.0
Main Menu > Sceanrio Description
NAVIGATION
SCENARIO DESCRIPTION
A manufacturer is experiencing high annual growth (25 %) in orders for a recent addition to its product portfolio. Orders (initially averaging 1000.0 units per week) are received from clients all over the world and these clients value a high-quality product delivered on time (the target delivery delay is 1.0 weeks). Customers will only wait a certain period of time before cancelling their order, from recent statistical analysis, customers have cancelled at a rate of 5.0 % if delivery delays are kept at the average. Consistently delaying the satisfaction of customer orders also runs the risk of damaging the reputation of the manufacturer thus affecting future sales growth.
In order to meet customer requirements, a number of service providers have been employed to carry out critical functions in the manufacturing supply chain;
1. quality control of raw materials
2. packaging of finished product
3. maintenance of the production lines
4. In addition, a specialist retrofit company has been employed in order to enhance the productivity of the production lines.
It is thought that the specialist service providers would be in a better position to react to changes in customer demand through superior process knowledge and flexibility.
QUALITY CONTROL
Raw materials for the production process require sophisticated quality control measures to ensure the quality of the high-precision parts. Parts are ordered from a 3rd-party supplier and delivered directly to the Quality Control Service Provider (QCSP) for inspection (with a lead time of 2.0 weeks), compliant parts are shipped to the manufacturer for use in the production process. The capacity allocated to the quality control of these
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Figure 12 - Scenario Description Screen

The Scenario Description screen outlines the background to the Business Game. It described a fictitious manufacturing company which is experiencing high growth for a recent product line it has introduced.

To meet the growth, the company has outsourced to service providers to maintain the quality assurance of raw materials, the packaging of finished products, the maintenance of the production lines and to a retrofitter to improve the productivity of the production lines.

The scenario description provides data on the key aspects of the company and should be used as a guide when playing the Business Game.

There are no user options available on this screen, except to navigate to the Main Menu by clicking on

5 Model Overview

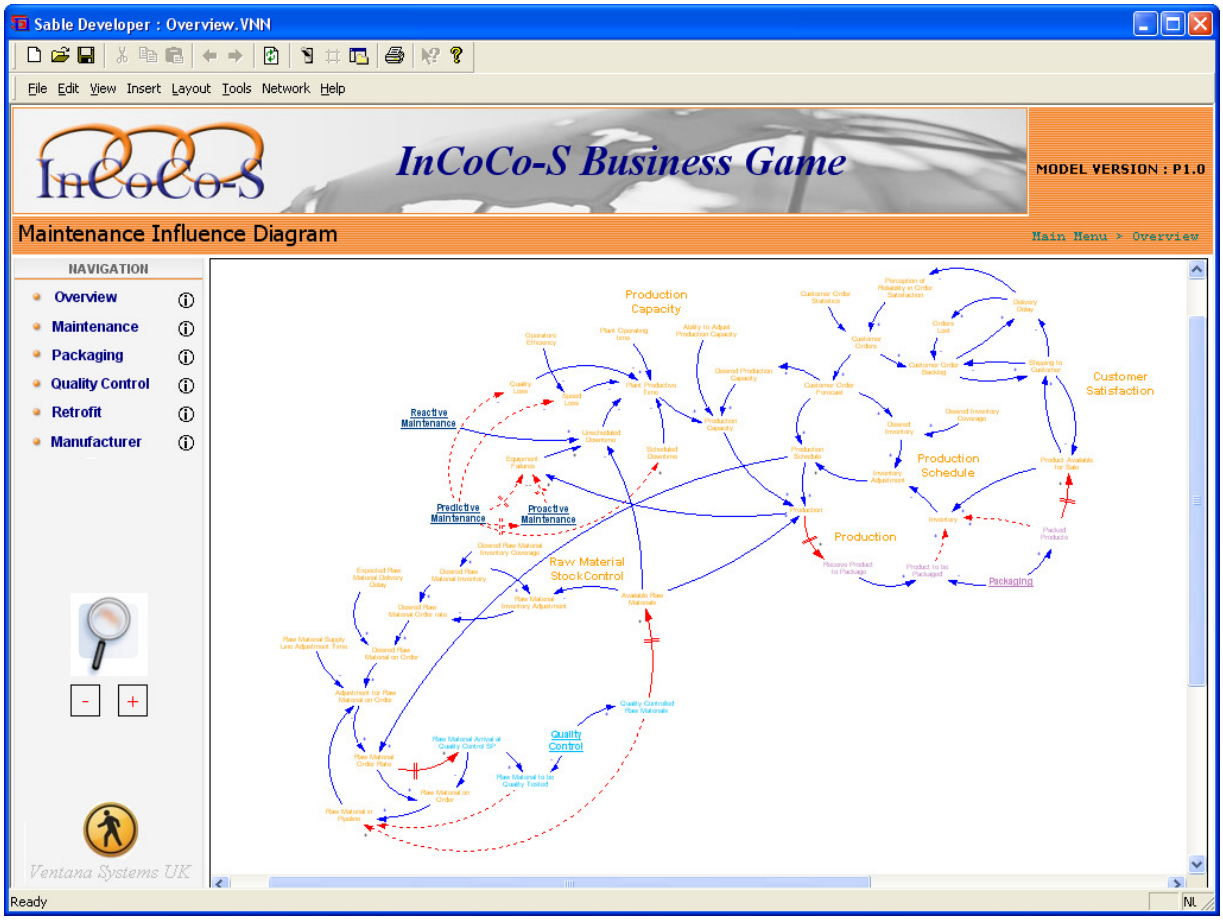

Figure 13 - Model Overview Screen

The Influence Diagram screen lets the user view the underlying structure of the Business Game. There are five influence diagrams to choose from:

1. Overview
2. Maintenance
3. Packaging
4. Quality Control
5. Retrofit
6. Manufacturing

Arrows show the cause and effect influences between any two variables in the system with closed loops denoting feedback.

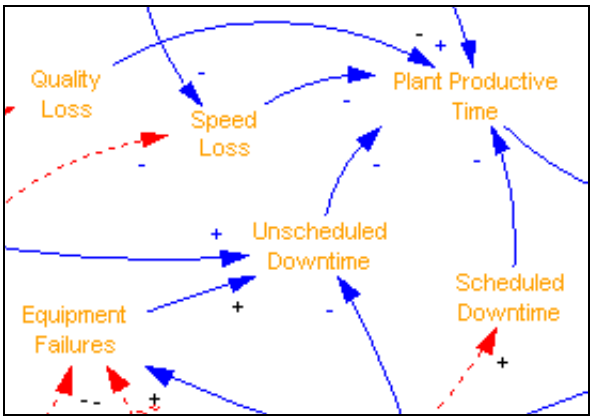

Figure 14 - Example Influence Diagram

In the example taken from the Maintenance Diagram, an increase in "Equipment Failures" increases the amount of "Unscheduled Downtime". However, if "Equipment Failures" are reduced, so will the amount of "Unscheduled Downtime". This type of relationship is denoted by the "+" sign at the arrow head, where a change at the tail of the arrow causes the same type of change at the head.

"Unscheduled Downtime" in turn reduces the "Plant Productive Time". So if "Unscheduled Downtime" increases, "Plant Productive Time" will be reduced. If "Unscheduled Downtime" decreases, "Plant Productive Time" will increase. This type of relationship is denoted by the "-" sign at the arrow head, where a change at the tail of the arrow causes the opposite type of change at the head.

To view a diagram, click on the appropriate navigation link. If the diagram is too large to fit in the viewing area, use the scroll bars to move around the diagram. Alternatively, use the tools to zoom in or zoom out to the desired resolution.

To return to the Main Menu, click on the icon.

6 Selection of Current Best Practices

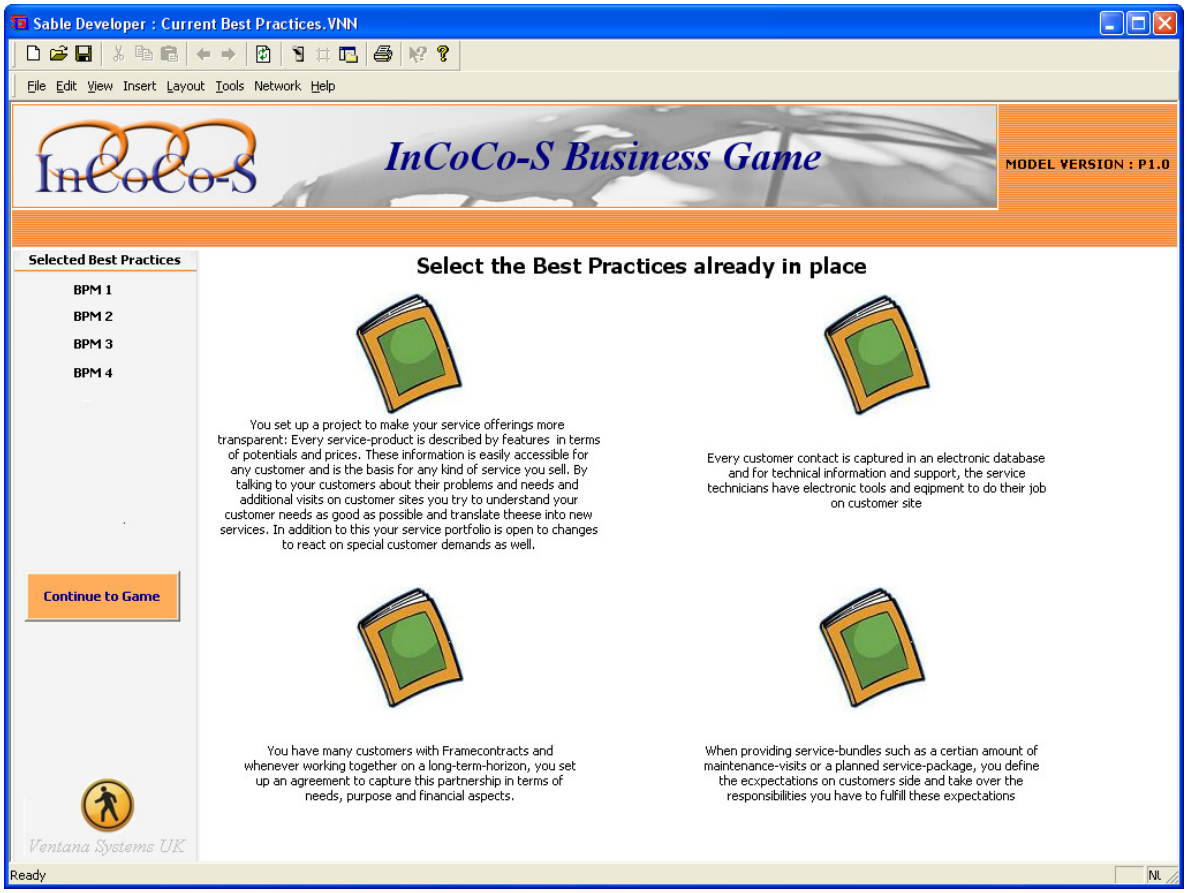
Sable Developer : Current Best Practices.VNN
File Edit View Insert Layout Tools Network Help
InCoCo-S Business Game
MODEL VERSION : P1.0
Selected Best Practices
BPM 1
BPM 2
BPM 3
BPM 4
Continue to Game
Select the Best Practices already in place
You set up a project to make your service offerings more transparent: Every service-product is described by features in terms of potentials and prices. These information is easily accessible for any customer and is the basis for any kind of service you sell. By talking to your customers about their problems and needs and additional visits on customer sites you try to understand your customer needs as good as possible and translate theese into new services. In addition to this your service portfolio is open to changes to react on special customer demands as well.
Every customer contact is captured in an electronic database and for technical information and support, the service technicians have electronic tools and eqipment to do their job on customer site
You have many customers with Framecontracts and whenever working together on a long-term-horizon, you set up an agreement to capture this partnership in terms of needs, purpose and financial aspects.
When providing service-bundles such as a certian amount of maintenance-visits or a planned service-package, you define the ecxpectations on customers side and take over the responsibilities you have to fulfill these expectations
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Figure 15 - Gaming Screen

Prior to commencing the business game, the user may select up to four best practice scenarios that are already in place. To select a best practice, click on the manual icon. Below each manual is the description of the best practice scenario that will be assumed to be implemented before running the game. As selections are made, a green indicator will be displayed next to BPM1, BPM2, BPM3, and BPM4 as a reminder to those selected.

To proceed to the business game, click on "Continue to Game". The user will then be asked to select a filename to store the results of the game. Once a filename is entered, the user will be navigated to the Gaming Screen.

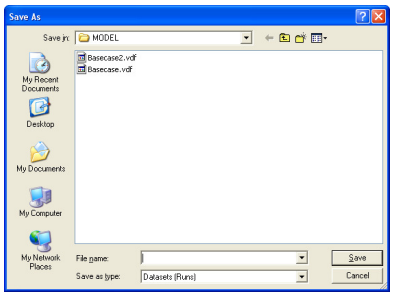


Figure 16 - Naming the Game

7 Gaming Screen

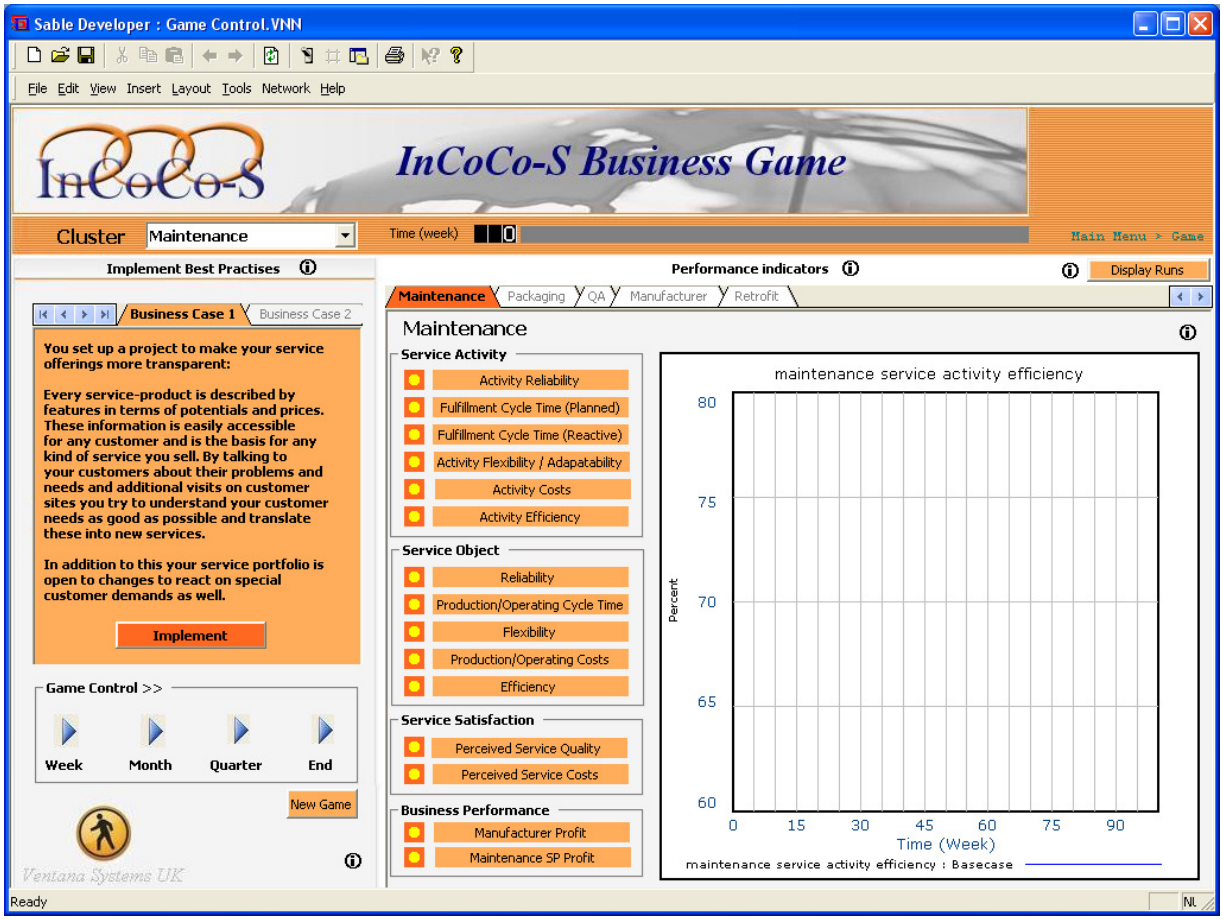

Sable Developer : Game Control.VNN
File Edit View Insert Layout Tools Network Help
InCoCo-S Business Game
Cluster
Maintenance
Time (week)
Main Menu > Game
Implement Best Practises
Performance indicators
Display Runs
Business Case 1
Business Case 2
You set up a project to make your service offerings more transparent:
Every service-product is described by features in terms of potentials and prices. These information is easily accessible for any customer and is the basis for any kind of service you sell. By talking to your customers about their problems and needs and additional visits on customer sites you try to understand your customer needs as good as possible and translate these into new services.
In addition to this your service portfolio is open to changes to react on special customer demands as well.
Implement
Game Control >>
Week
Month
Quarter
End
New Game
Ventana Systems UK
Maintenance
Packaging
QA
Manufacturer
Retrofit
Service Activity
Activity Reliability
Fulfillment Cycle Time (Planned)
Fulfillment Cycle Time (Reactive)
Activity Flexibility / Adapatability
Activity Costs
Activity Efficiency
Service Object
Reliability
Production/Operating Cycle Time
Flexibility
Production/Operating Costs
Efficiency
Service Satisfaction
Perceived Service Quality
Perceived Service Costs
Business Performance
Manufacturer Profit
Maintenance SP Profit
maintenance service activity efficiency
Percent
Time (Week)
maintenance service activity efficiency : Basecase
Ready

Figure 17 - Gaming Screen

The user will be presented with the gaming interface. This screen is divided into three parts:

Game Decisions

Status Indicators

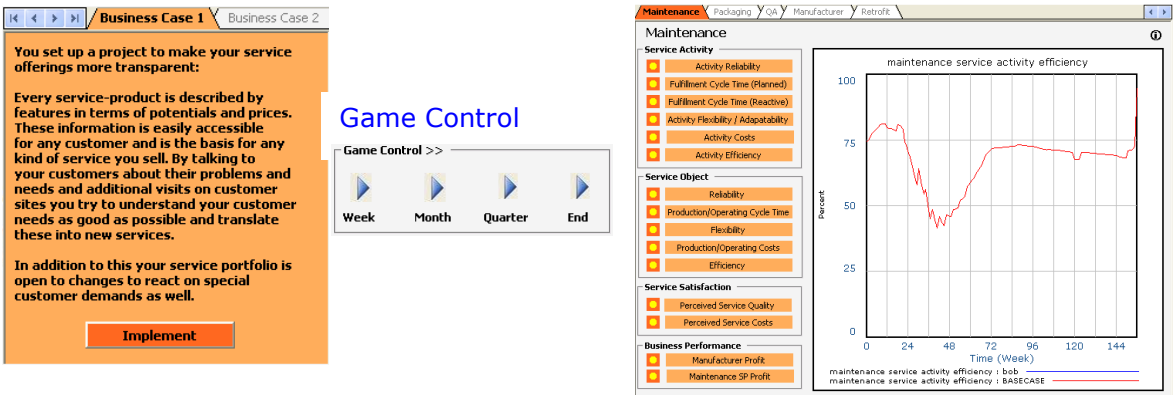

Business Case 1
Business Case 2
You set up a project to make your service offerings more transparent:
Every service-product is described by features in terms of potentials and prices. These information is easily accessible for any customer and is the basis for any kind of service you sell. By talking to your customers about their problems and needs and additional visits on customer sites you try to understand your customer needs as good as possible and translate these into new services.
In addition to this your service portfolio is open to changes to react on special customer demands as well.
Implement
Game Control
Game Control >>
Week
Month
Quarter
End
Maintenance
maintenance service activity efficiency
Time (Week)

Figure 18 - Gaming Screen Sections

7.1 Game Decisions

The user can implement by two methods. They can select from four pre-defined a Business Cases or select to implement individual best practices.

7.1.1 Business Cases

Four pre-defined business cases can be selected. The business cases are the same as the ones that could be pre-selected prior to the commencement of the game. Selecting a business case at any point during the simulation will initiate those best practices it includes at that time.

Business Cases

1. You set up a project to make your service offerings more transparent: Every service-product is described by features in terms of potentials and prices. This information is easily accessible for any customer and is the basis for any kind of service you sell. By talking to your customers about their problems and needs and additional visits on customer sites you try to understand your customer needs as good as possible and translate these into new services. In addition to this your service portfolio is open to changes to react on special customer demands as well.

2. Every customer contact is captured in an electronic database and for technical information and support; the service technicians have electronic tools and equipment to do their job on customer site.

3. You have many customers with Frame contracts and whenever working together on a long-term-horizon, you set up an agreement to capture this partnership in terms of needs, purpose and financial aspects.

4. When providing service-bundles such as a certain amount of maintenance-visits or a planned service-package, you define the expectations on customers side and take over the responsibilities you have to fulfil these expectations

When a Business Case is implemented (or has been implemented prior to the game) the following icon will appear in the selection window.

7.1.2 Individual Best Practices

The Gaming Decisions the user can make are based on the implementation of Best Practices. The Best Practices have been sub-divided into 5 categories:

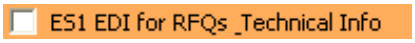
1. PS Partnership Setup
2. PCS Partnership and Collaboration Support
3. ES Electronic Support
4. US Universal Best Practices
5. MFS Manufacturing oriented Best Practices

To select a particular service provider to make decisions for, click on the "cluster" drop-down box.

To move been each category, click on the relevant tab. As the game progresses, at each time it is paused new gaming decisions can be made. When a new check box is selected, that Best Practice will be implemented. However, the benefit of implementing the best practice may not immediately appear.

Example : The maintenance service provider wishes to implement the Best Practice for Electronic Data Interchange (ES1) at six weeks into the game.

- Advance the game to week 6 (see section 7.2)
- Select "Maintenance" from the "Cluster" drop-down box.
- Click on the ES tab
- Click in the check box along side "ES2 –Electronic Catalogues"



Any number of Best Practices can be implemented at any stage. For more information about each of the Best Practices, click on the ⓘ icon for more details.

If one or more "Business Cases" have been selected, some of the individual best practices will already be selected.

7.2 Game Control

When the user enters the gaming screen, the game is automatically initiated to time zero (Week 0). Gaming decisions for implementing Best Practices (Section 7.1) can be made at this time if required.

To Advance the game, select the period of weeks to advance: Week (1), Month (4), Quarter (13) or run the game to the end.

As it advances, the status indicators (section 7.2.1) will reflect the performance of the networked business.

After the game has advanced, new Business Cases or individual Best Practices can be implemented if desired by selecting the relevant check boxes. The user can then advance the game again by the desired period.

The game is designed to run for three years (156 weeks).

To terminate a game at any point, exit the gaming screen

To play another game, select the

option. This will reset the game to week 0.

On screen help for the game control features can be accessed by clicking on

7.2.1 Maintenance Performance Indicators

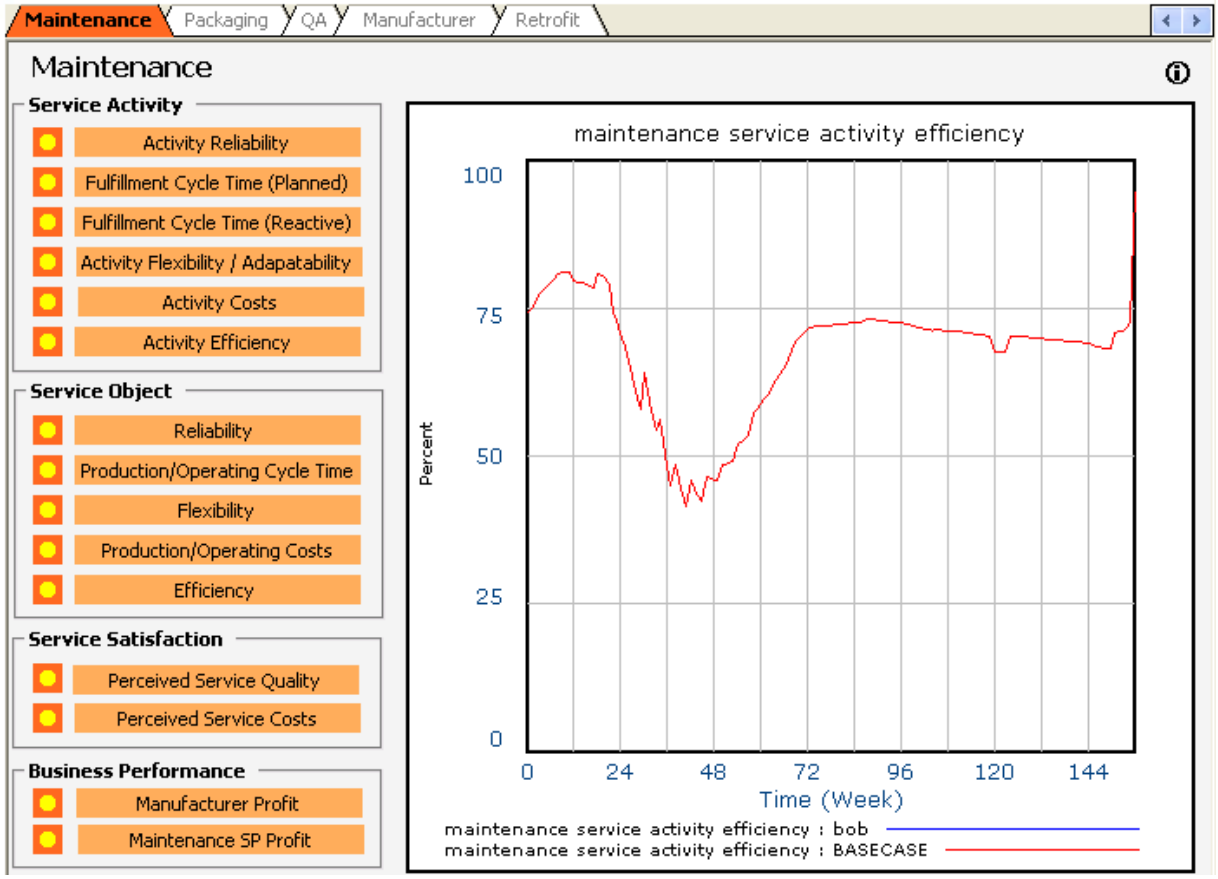


Figure 19 - Maintenance Service Provider Output

Key performance indicators (KPI) from the Service Support Measurement System (SPMS), developed by the InCoCo-S consortium, are displayed.

Selecting any of the PI's will cause the graph to display the selected KPI and provide a fuller description of the parameter in the lower window.

Alongside each of the parameter selection buttons is a current performance icon.

Between 75% -90% of the value of the Best Practise KPI

Below 75% of the value of the Best Practise KPI

Above 90% of the value of the Best Practise KPI

7.2.2 Packaging Performance Indicators

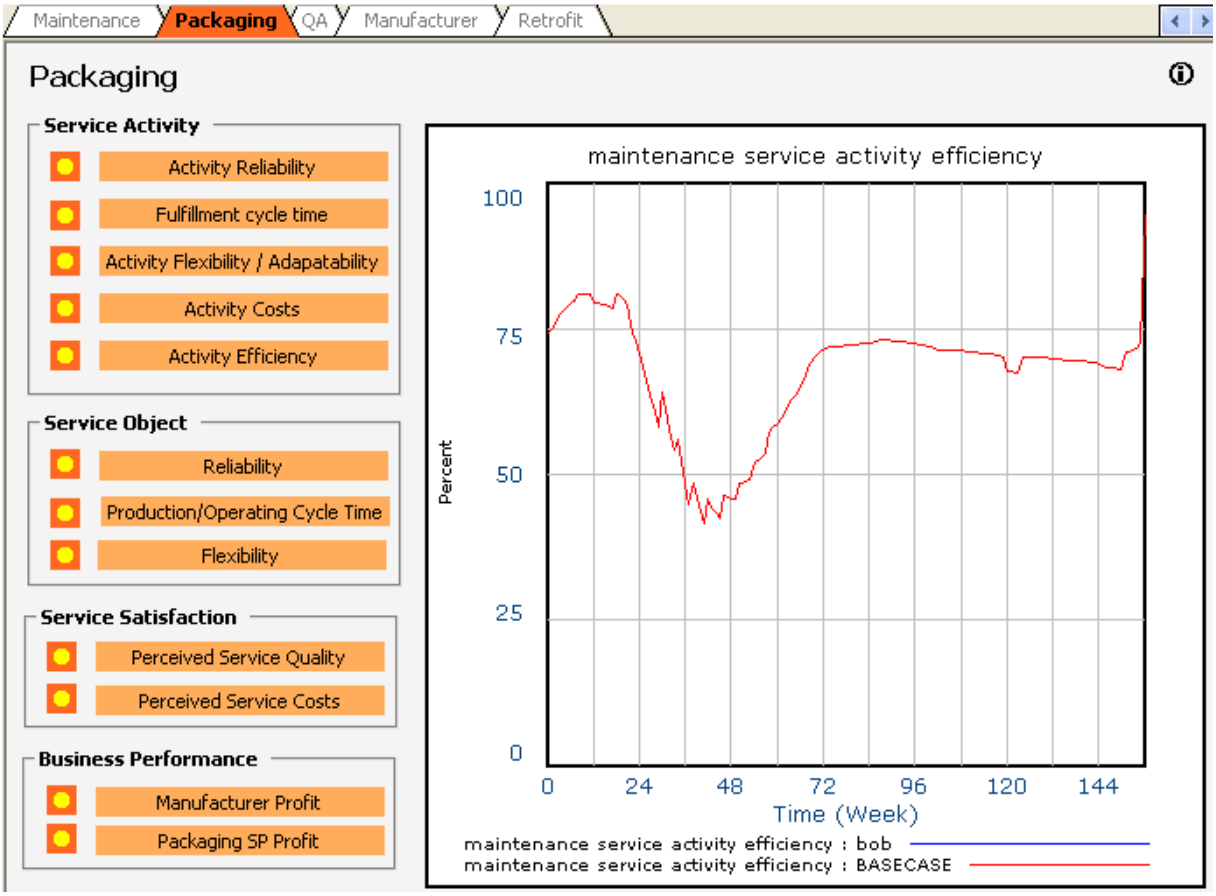


Figure 20 - Packaging Service Provider Output

Key performance indicators (PI) from the Service Support Measurement System (SPMS), developed by the InCoCo-S consortium, are displayed.

Selecting any of the PI's will cause the graph to display the selected PI and provide a fuller description of the parameter in the lower window.

Alongside each of the parameter selection buttons is a current performance icon.

Between 75% -90% of the value of the Best Practise KPI

Below 75% of the value of the Best Practise KPI

Above 90% of the value of the Best Practise KPI

7.2.3 Quality Control Performance Indicators

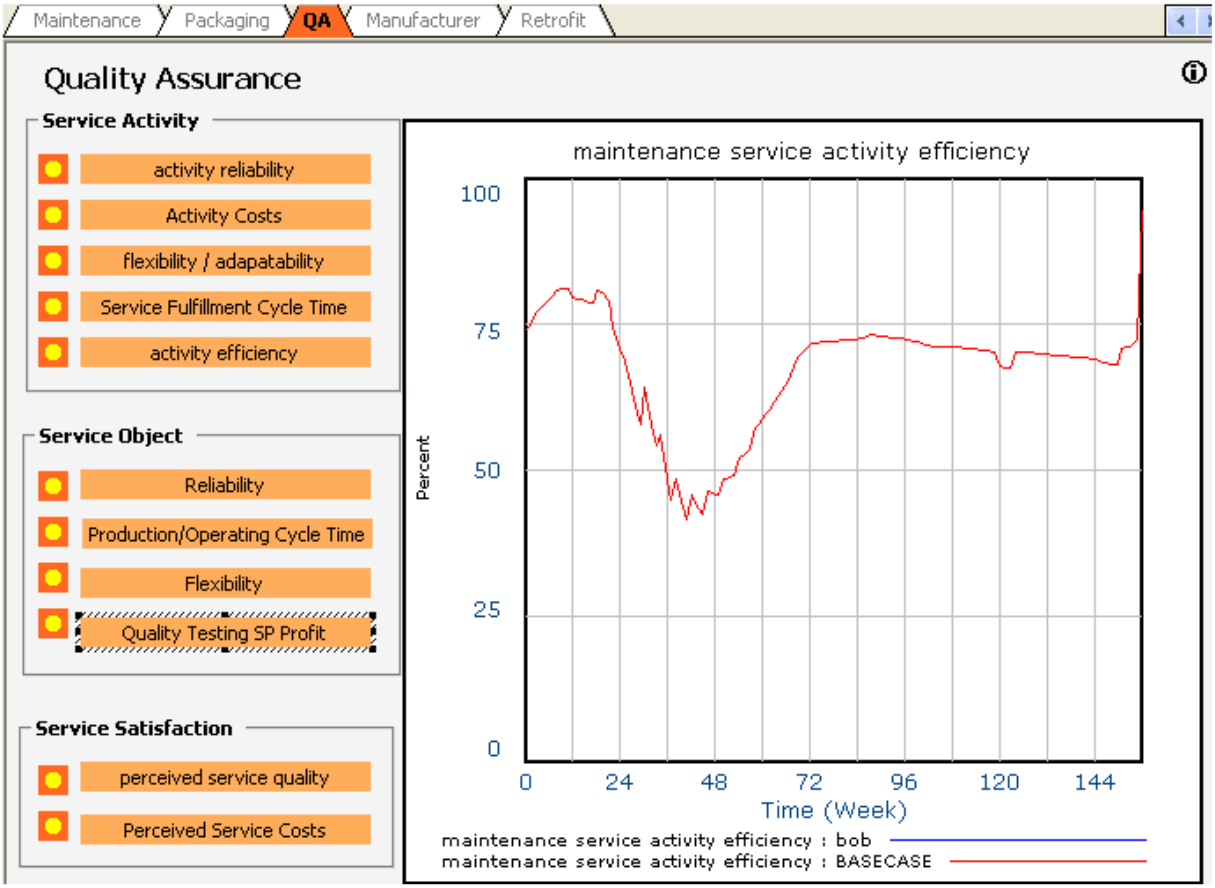


Figure 21 - Quality Control Service Provider Output

Key performance indicators (PI) from the Service Support Measurement System (SPMS), developed by the InCoCo-S consortium, are displayed.

Selecting any of the PI's will cause the graph to display the selected PI and provide a fuller description of the parameter in the lower window.

Alongside each of the parameter selection buttons is a current performance icon.

Between 75% -90% of the value of the Best Practise KPI

Below 75% of the value of the Best Practise KPI

Above 90% of the value of the Best Practise KPI

7.2.4 Manufacturer Performance Indicators

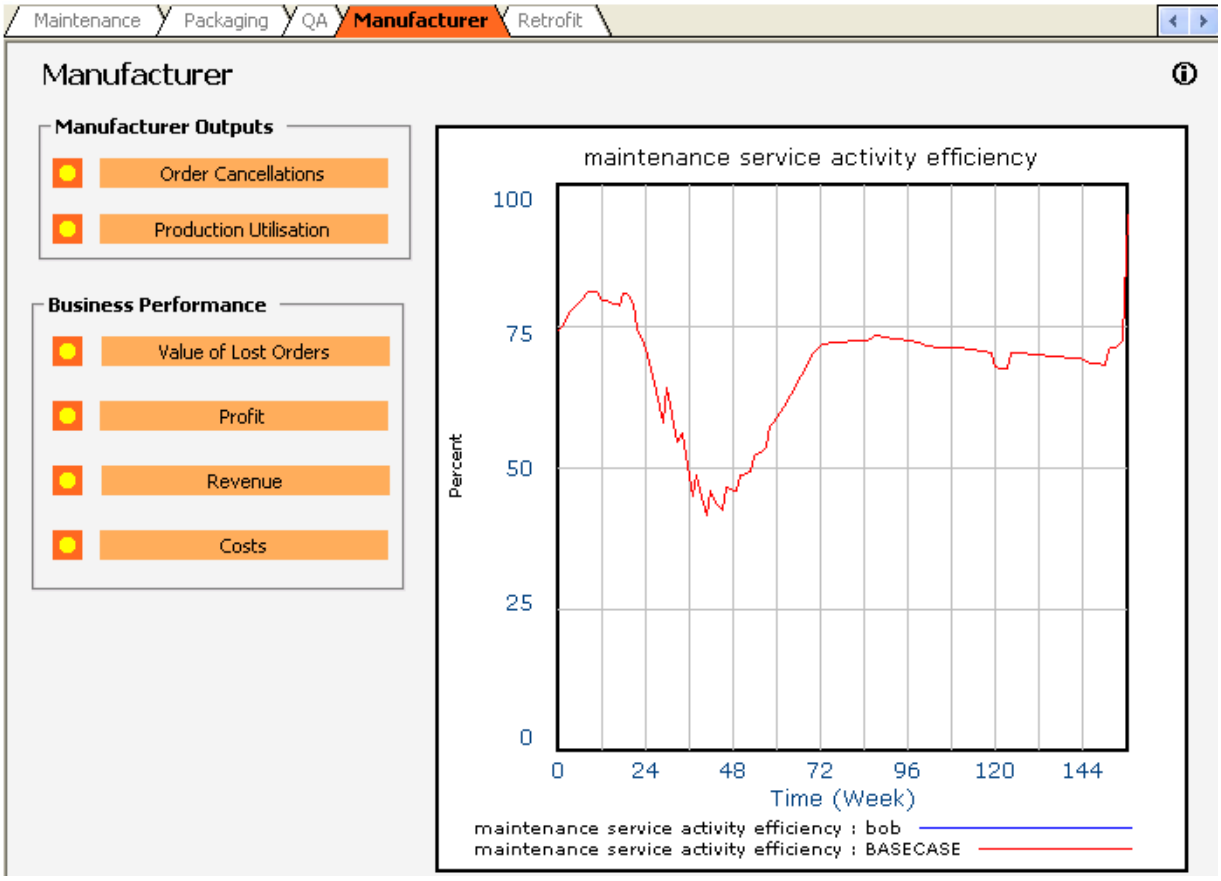


Figure 22 - Manufacturer Output

Key performance indicators are displayed.

Selecting any of the PI's will cause the graph to display the selected PI and provide a fuller description of the parameter in the lower window.

Alongside each of the parameter selection buttons is a current performance icon.

Between 75% -90% of the value of the Best Practise KPI

Below 75% of the value of the Best Practise KPI

Above 90% of the value of the Best Practise KPI

7.2.5 Retrofit Performance Indicators

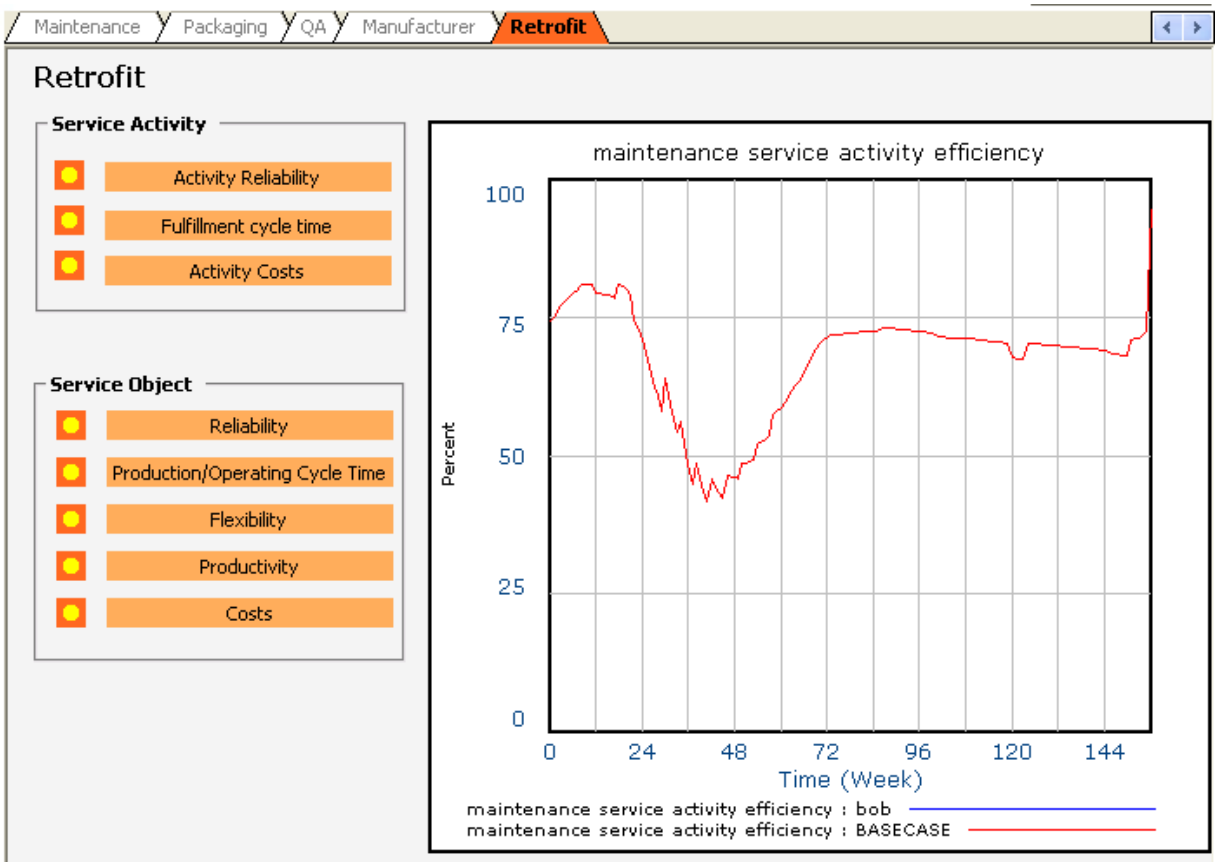


Figure 23 – Retro Fit Output

Key performance indicators are displayed.

Selecting any of the PI's will cause the graph to display the selected PI and provide a fuller description of the parameter in the lower window.

Alongside each of the parameter selection buttons is a current performance icon.

Between 75% -90% of the value of the Best Practise KPI

Below 75% of the value of the Best Practise KPI

Above 90% of the value of the Best Practise KPI

8 Analysis Screen

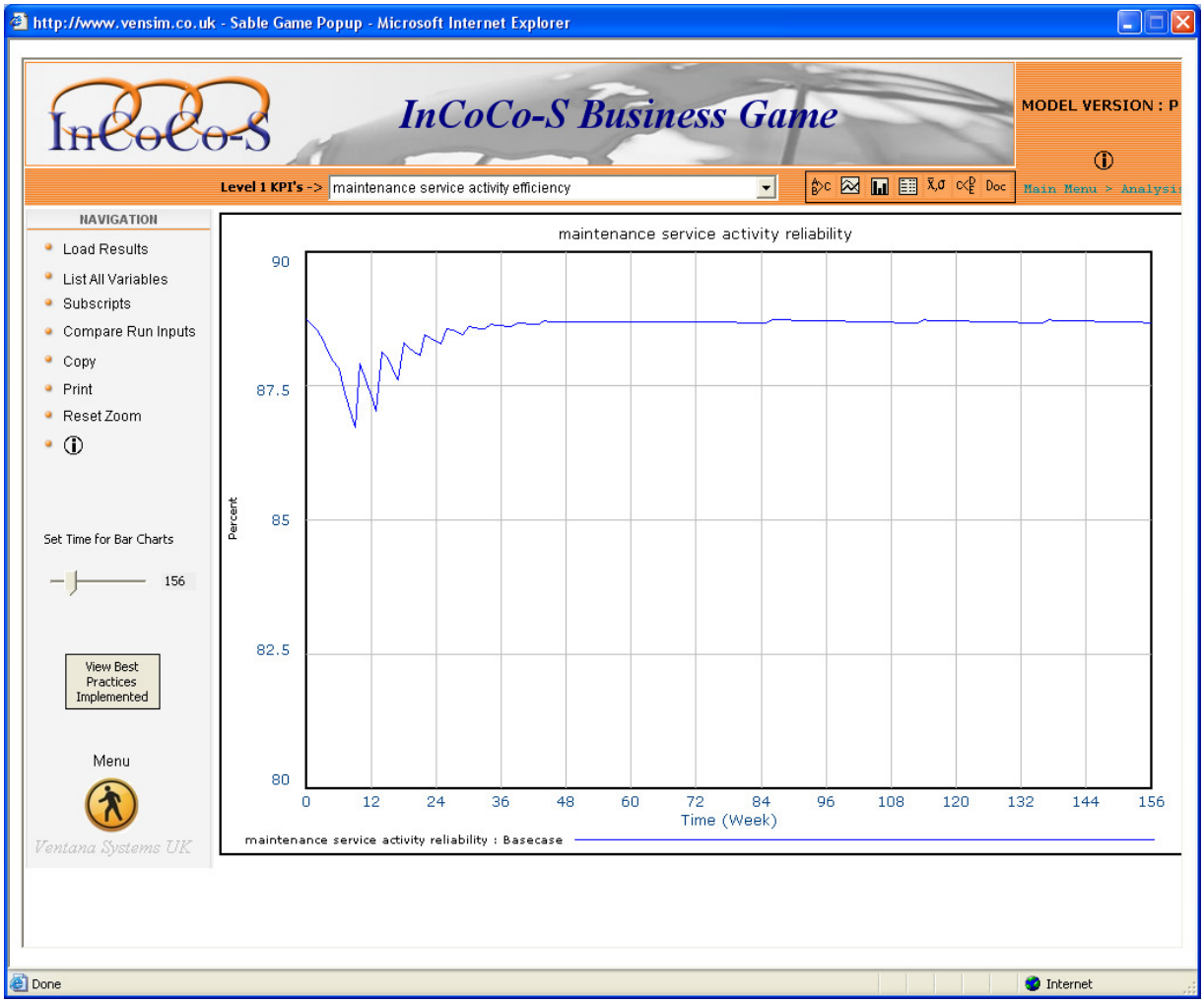


Figure 24 - Analysis Screen

The Analysis Screen allows the user to investigate the results of any of the Business Games played in more detail. When you access the Analysis screen from the Main Menu, the user is prompted for the name of the run(s) they wish to look at.

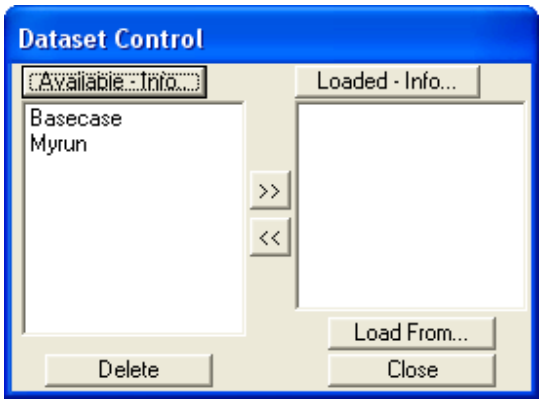


Figure 25 - Dataset Control Dialog

To select a run, move it to the right-hand window by double clicking on it.

A list of the Level 1 Key Performance Indicators (PI's) can be accessed from the dropdown list for quick access:

When a new PI is selected, the chart window will update to display the new parameter.

A selection of analysis tools can be used by clicking on the tool icons shown below.

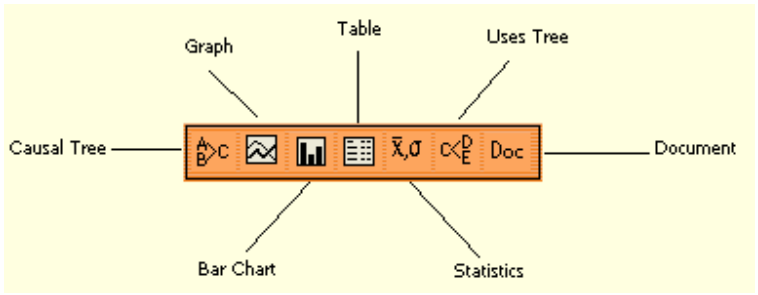
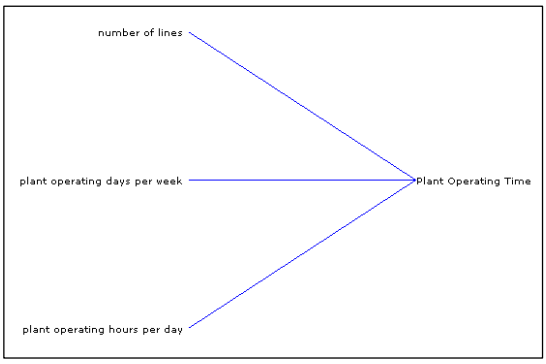


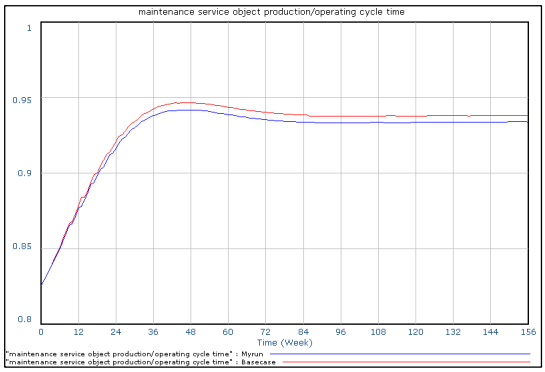
Figure 26 - Analysis Tools

Causal Tree

The Causal Tree diagram displays which other model parameters directly influence the PI

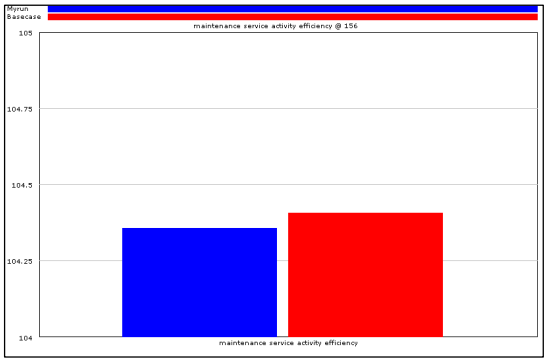


Graph



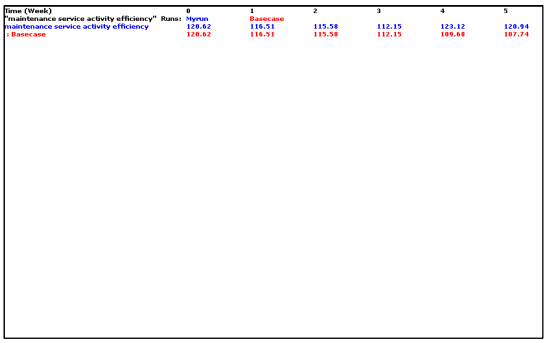
The Graph tool displays the value of the PI
Over the entire length of the business game played

Bar Chart



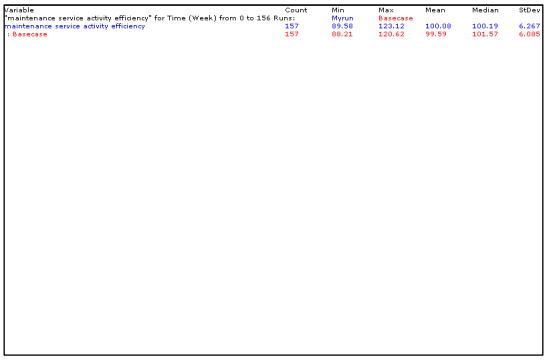
The Bar Chart displays the value of the PI at one point in time. By default this is at the end of the game, but this can be changed by moving the scroll bar shown below

Table



The table tool displays the actual PI value for each week of the game played. If more than one game result set is loaded, the individual runs are colour coded.

Statistics

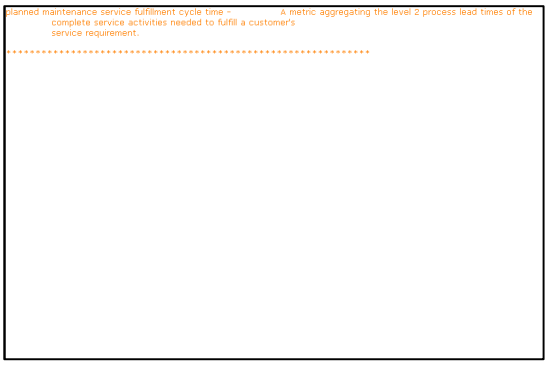


Basic statistics are available for the PI over the duration of the game. These include

- Min
- Max
- Mean
- Median
- Std Deviation

Documentor

The Documentor tool will display a more detailed Description of the PI selected.


Planned maintenance service fulfillment cycle time – A metric aggregating the level 2 process lead times of the complete service activities needed to fulfill a customer's service requirement.

Menu Options

Load Results	will allow the user to load or unload result files to be displayed in the charts
List All Variables	displays a list of all model variables, not just the Level 1 PIs to select from
Subscripts	allows user to select which process types to display
Compare Run Inputs	will list the input differences between two sets of game results
Copy	will copy the current chart into the clipboard
Print	Not yet implemented
Reset Zoom	Not yet implemented

Table 1 - Analysis Screen Menu Options

View Best Practices Implemented

Selecting the above button will display a Gantt chart in the chart window.

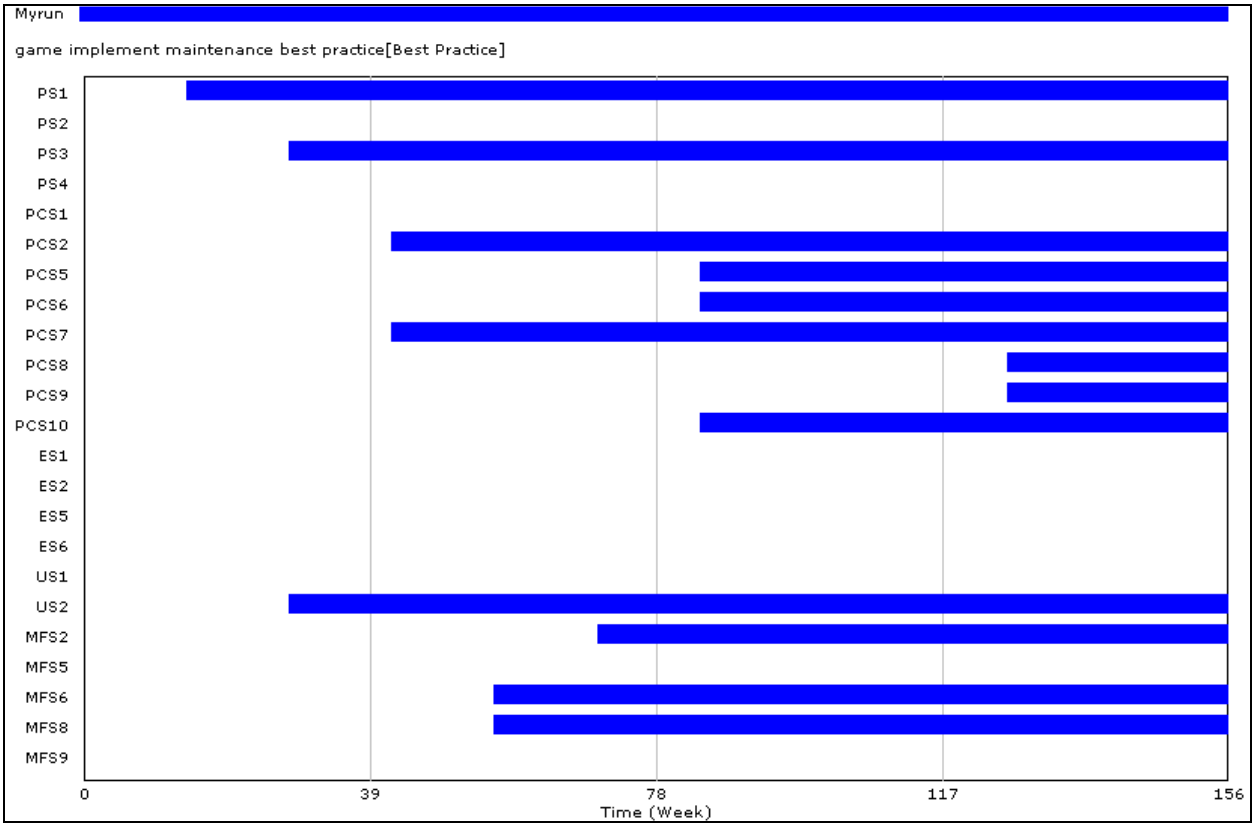


Figure 27 - View Best Practices - Output

This Gantt chart displays the times at which the user implemented the Best Practice options during the game.

For online help, click on any of the information icons ⓘ

To return to the Main Menu, click on the icon.